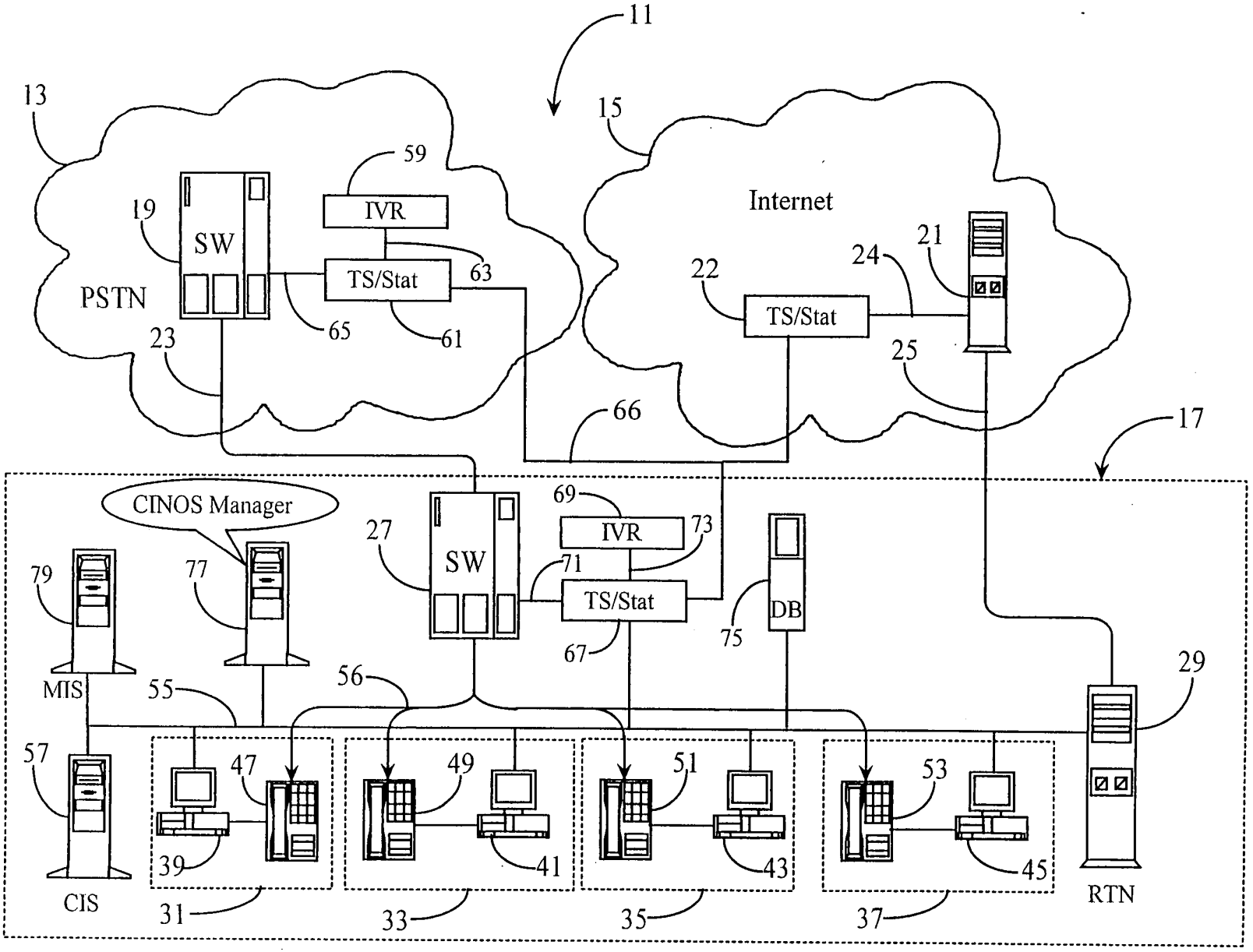

11
13
15
17
19
SW
PSTN
59
IVR
TS/Stat
63
65
61
23
Internet
21
24
22
TS/Stat
25
66
CINOS Manager
69
IVR
73
27
SW
71
TS/Stat
DB
75
67
79
77
MIS
55
56
29
57
47
49
51
53
39
41
43
45
CIS
RTN
31
33
35
37

Fig. 1

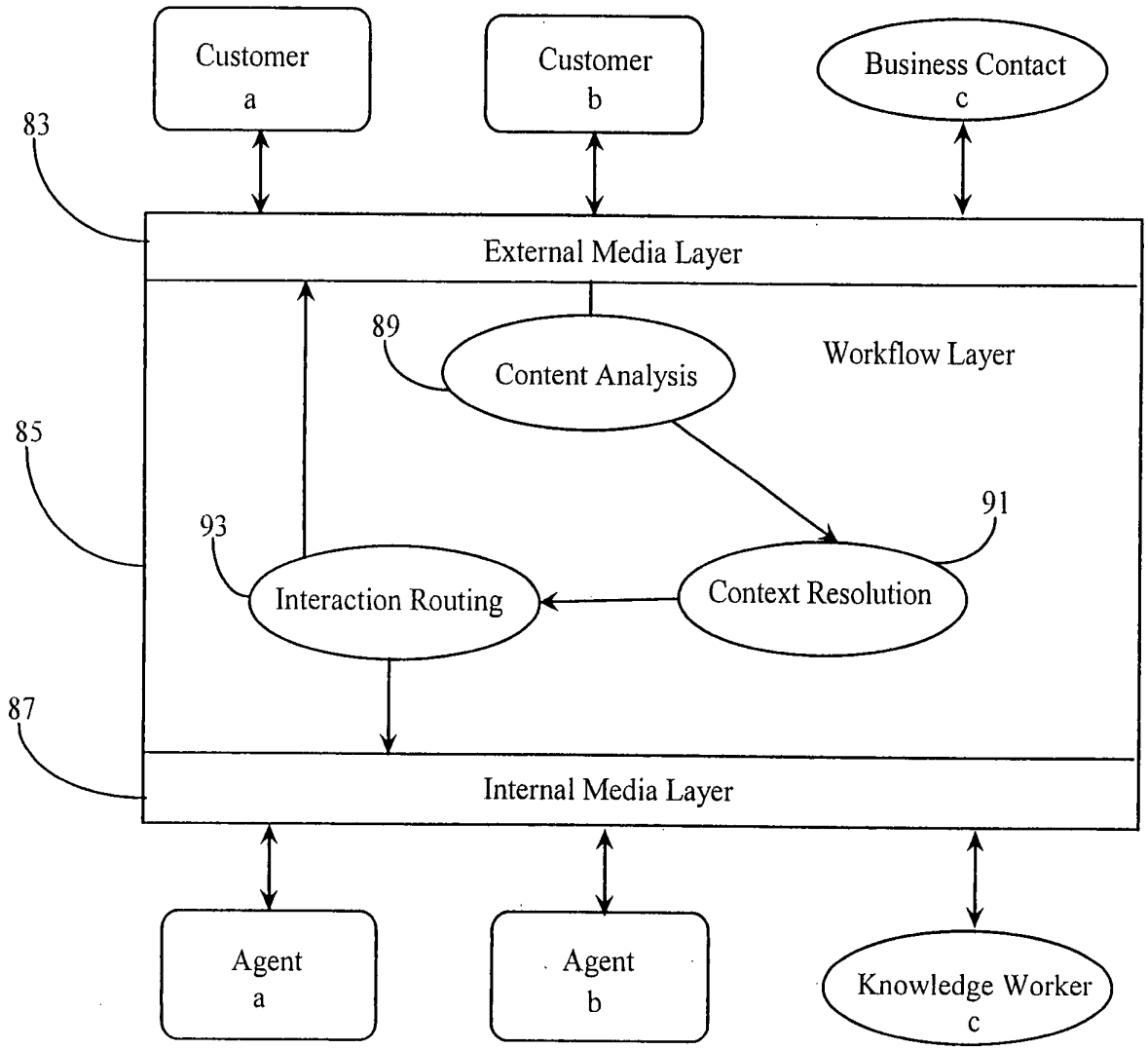

Customer
a
Customer
b
Business Contact
c
83
External Media Layer
89
Content Analysis
Workflow Layer
85
91
93
Interaction Routing
Context Resolution
87
Internal Media Layer
Agent
a
Agent
b
Knowledge Worker
c

Fig. 2

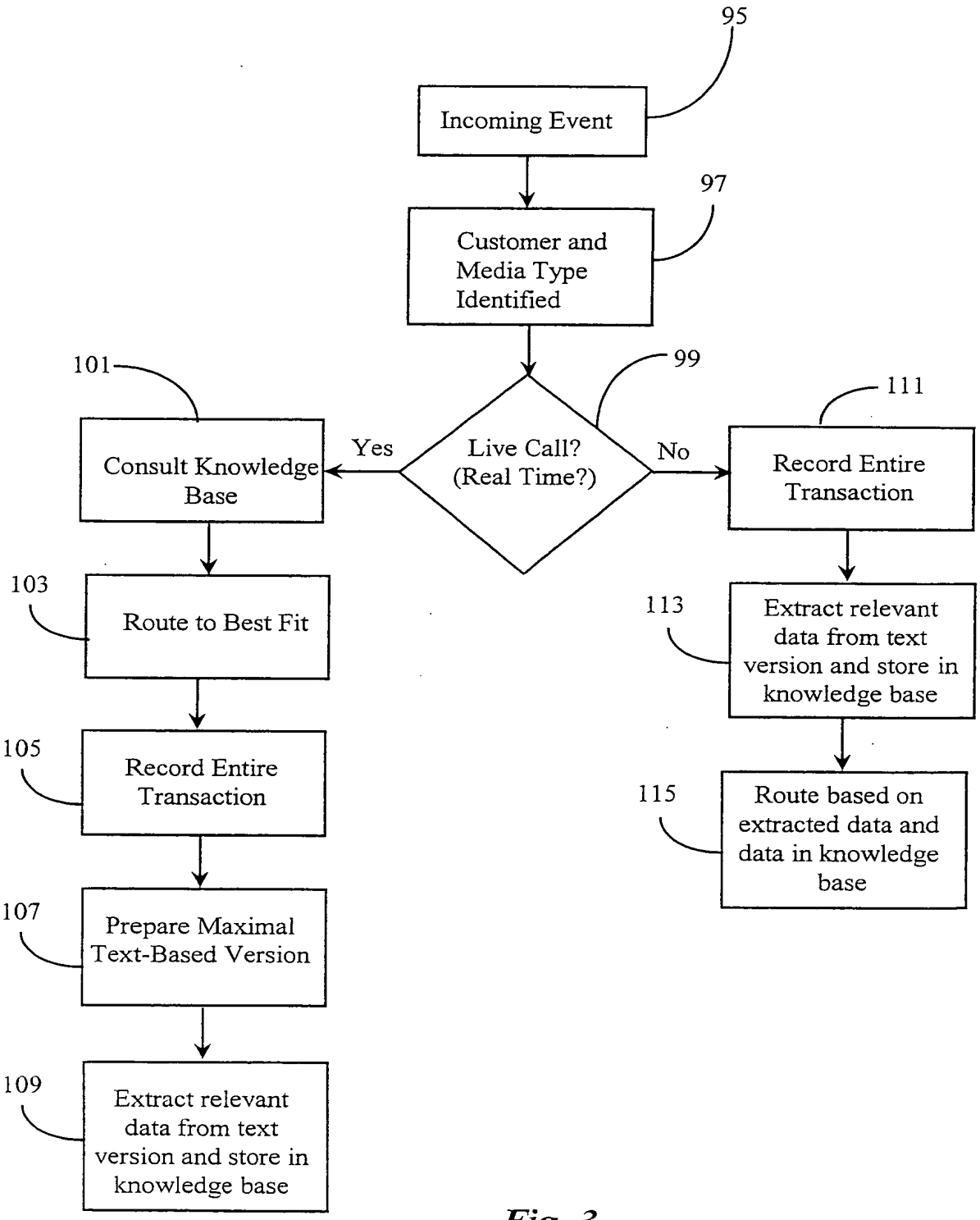

95
Incoming Event
97
Customer and Media Type Identified
99
Live Call? (Real Time?)
Yes
No
101
Consult Knowledge Base
103
Route to Best Fit
105
Record Entire Transaction
107
Prepare Maximal Text-Based Version
109
Extract relevant data from text version and store in knowledge base
111
Record Entire Transaction
113
Extract relevant data from text version and store in knowledge base
115
Route based on extracted data and data in knowledge base

Fig. 3

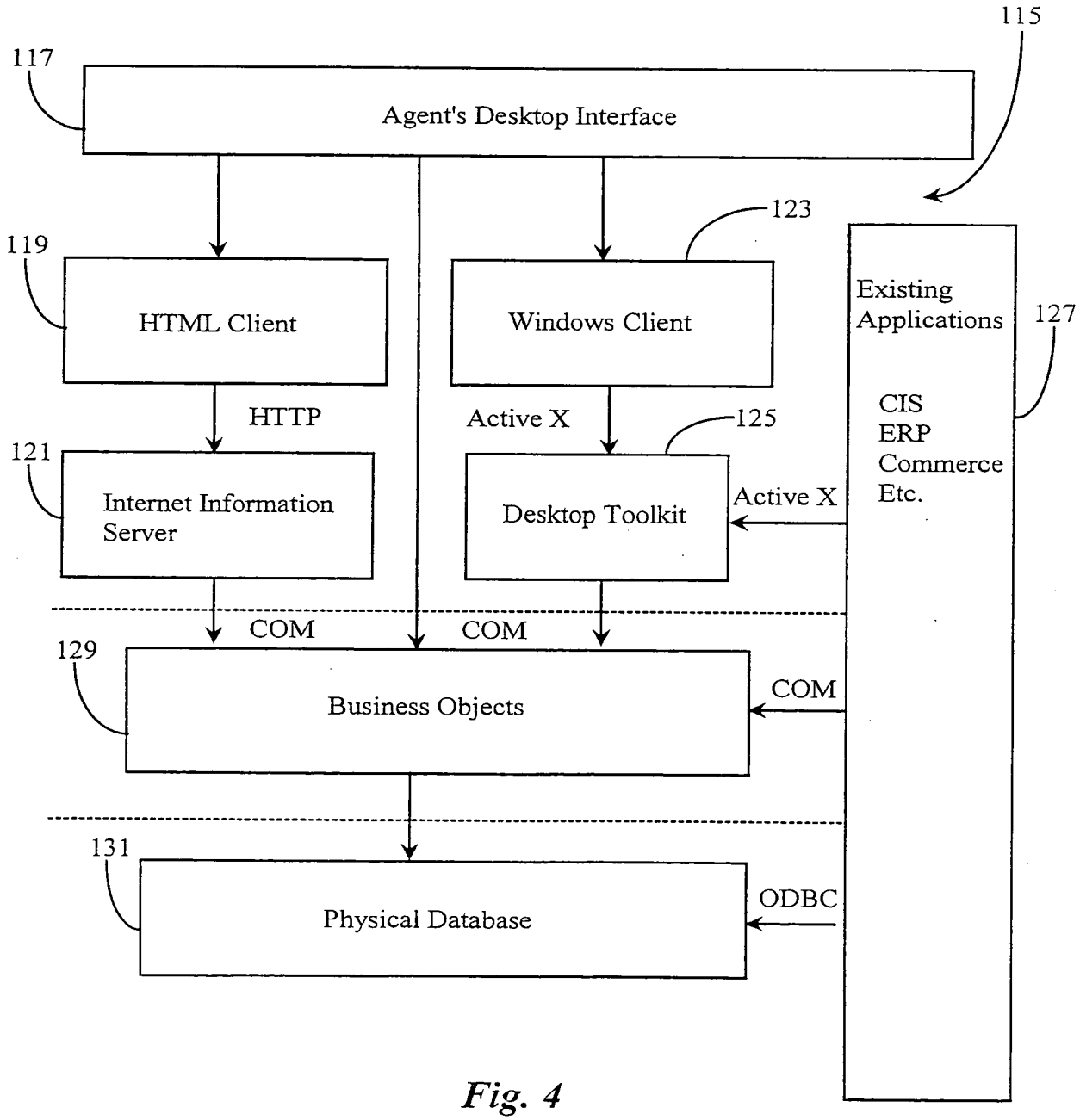

115
117
Agent's Desktop Interface
123
119
HTML Client
Windows Client
Existing Applications
127
CIS
ERP
Commerce
Etc.
HTTP
Active X
125
121
Internet Information Server
Desktop Toolkit
Active X
COM
COM
129
Business Objects
COM
131
Physical Database
ODBC

Fig. 4

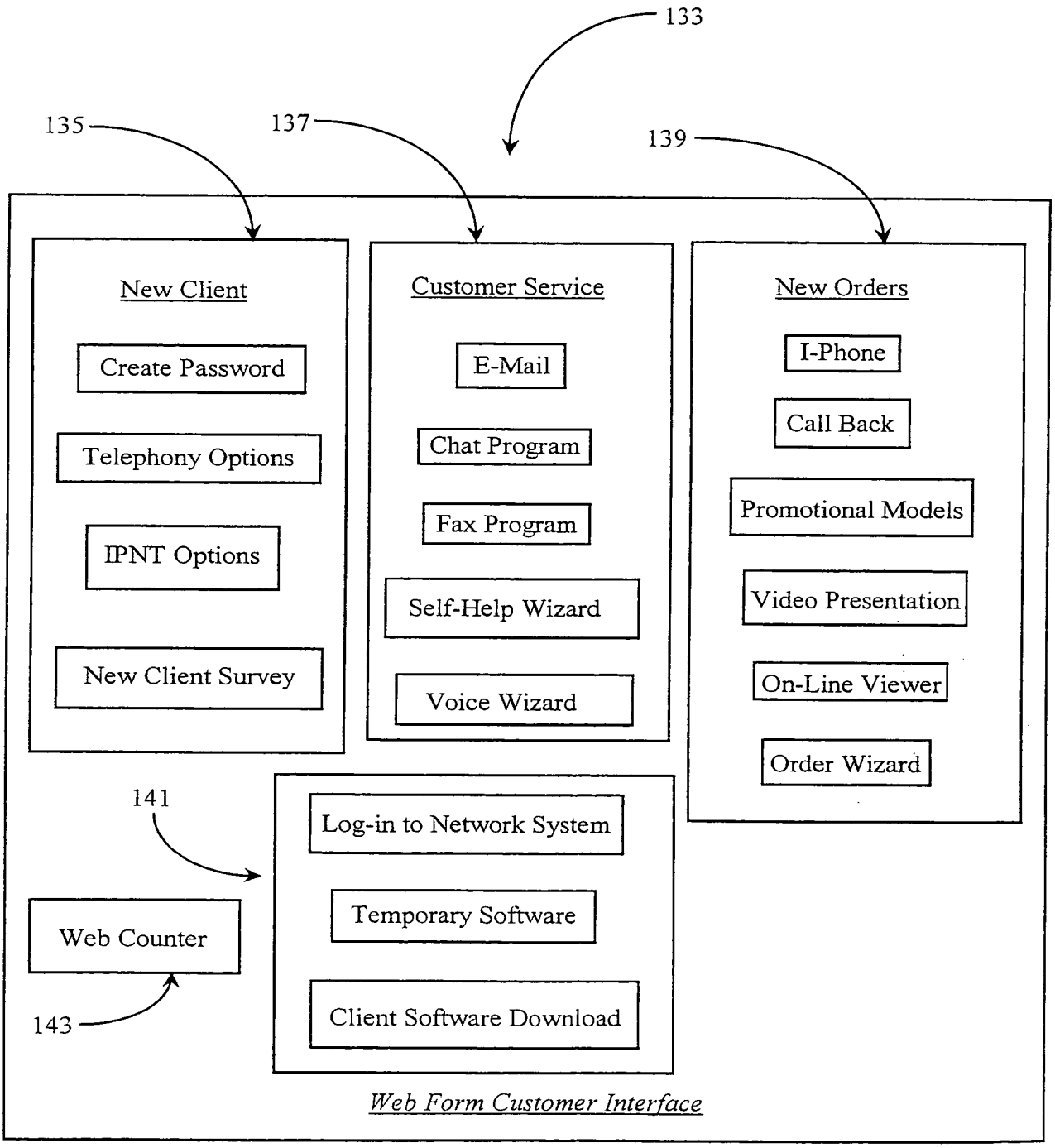

133
135
137
139
New Client
Create Password
Telephony Options
IPNT Options
New Client Survey
Customer Service
E-Mail
Chat Program
Fax Program
Self-Help Wizard
Voice Wizard
New Orders
I-Phone
Call Back
Promotional Models
Video Presentation
On-Line Viewer
Order Wizard
141
Log-in to Network System
Temporary Software
Client Software Download
Web Counter
143
Web Form Customer Interface

Fig. 5

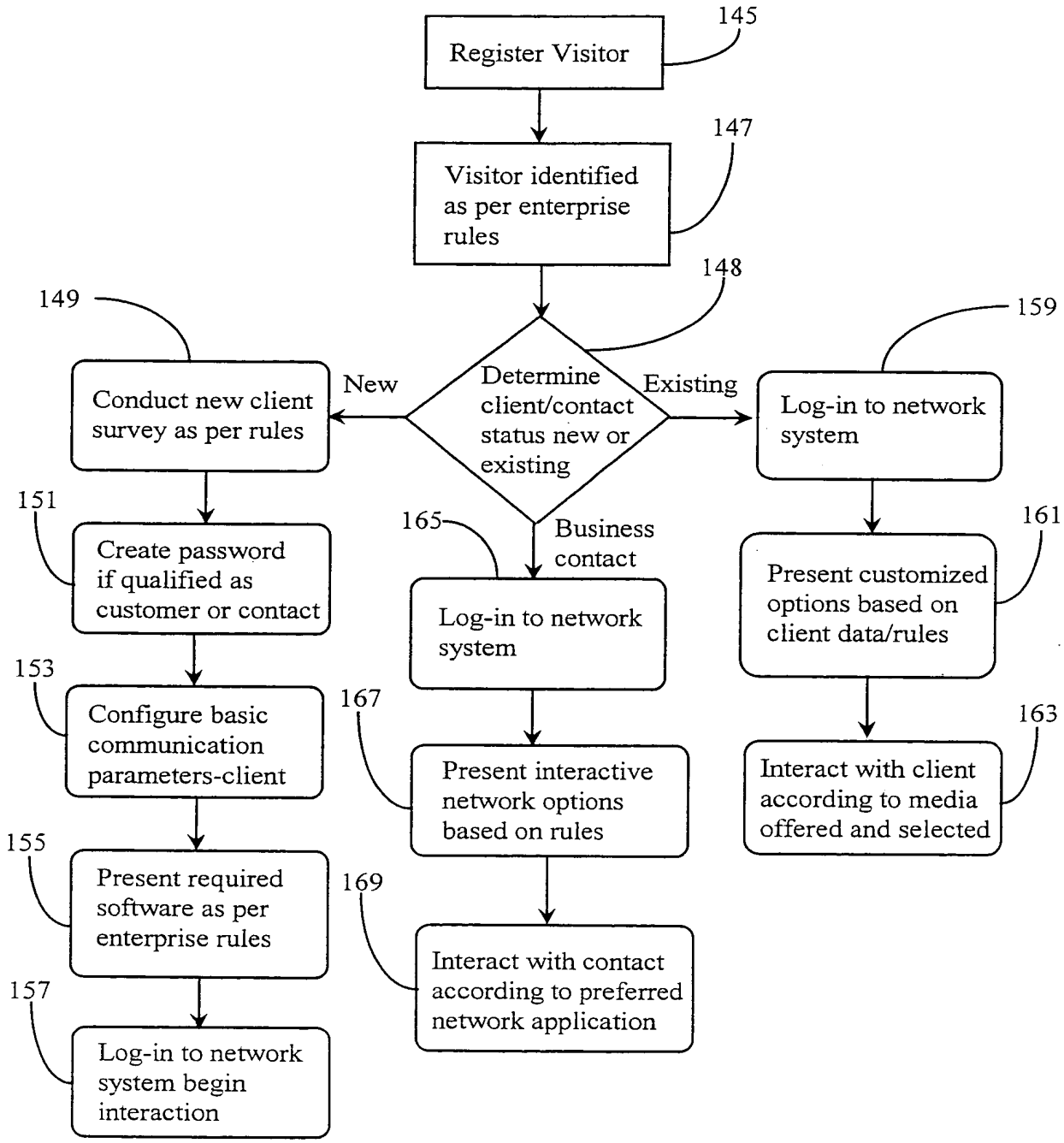

Register Visitor
145
Visitor identified as per enterprise rules
147
148
Determine client/contact status new or existing
New
Existing
Business contact
149
Conduct new client survey as per rules
151
Create password if qualified as customer or contact
153
Configure basic communication parameters-client
155
Present required software as per enterprise rules
157
Log-in to network system begin interaction
165
Log-in to network system
167
Present interactive network options based on rules
169
Interact with contact according to preferred network application
159
Log-in to network system
161
Present customized options based on client data/rules
163
Interact with client according to media offered and selected

Fig. 6

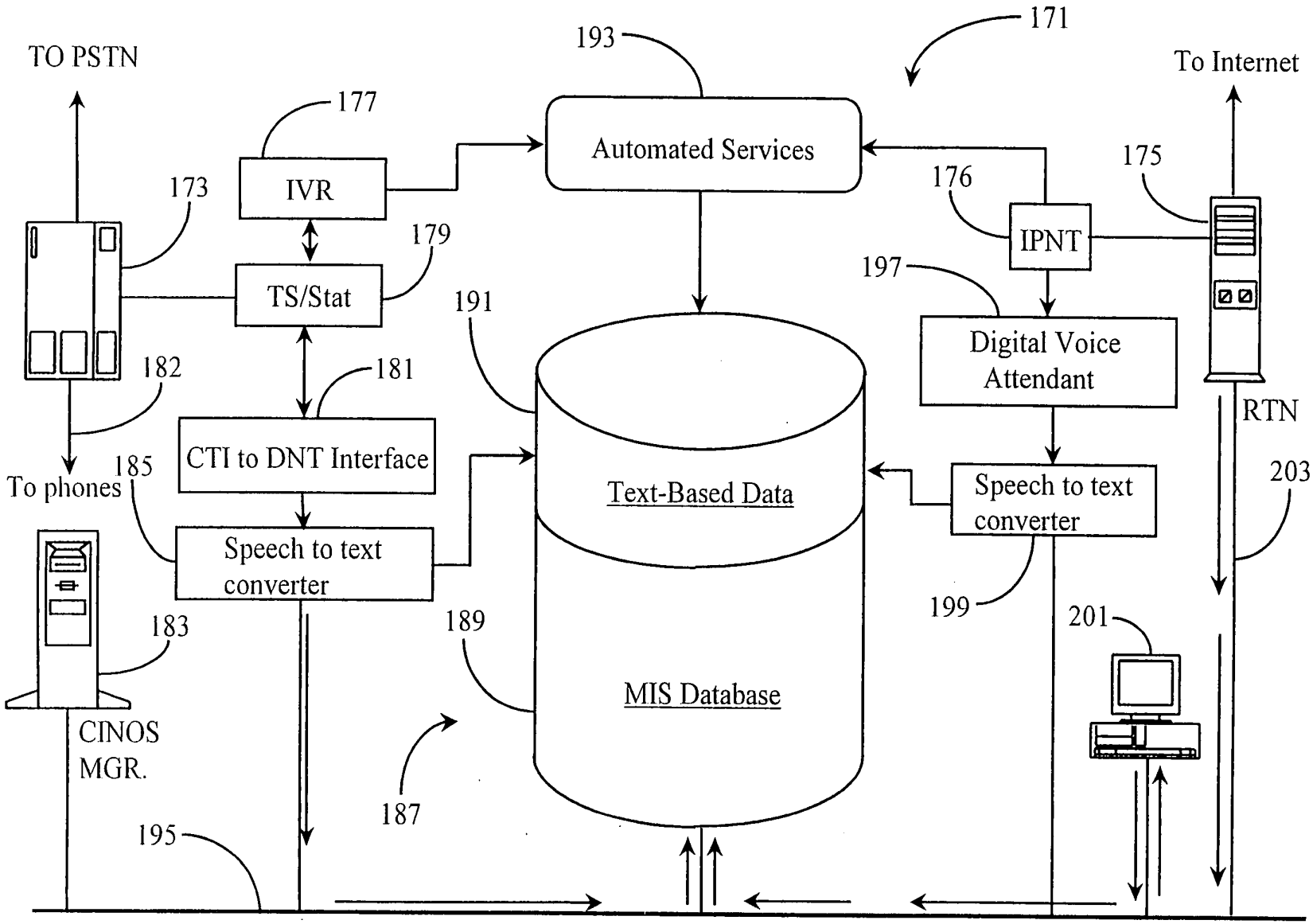

TO PSTN
193
171
To Internet
177
Automated Services
175
173
IVR
176
IPNT
179
197
TS/Stat
191
Digital Voice
Attendant
182
181
RTN
CTI to DNT Interface
185
203
To phones
Text-Based Data
Speech to text
converter
Speech to text
converter
199
183
189
201
MIS Database
CINOS
MGR.
187
195

Fig. 7

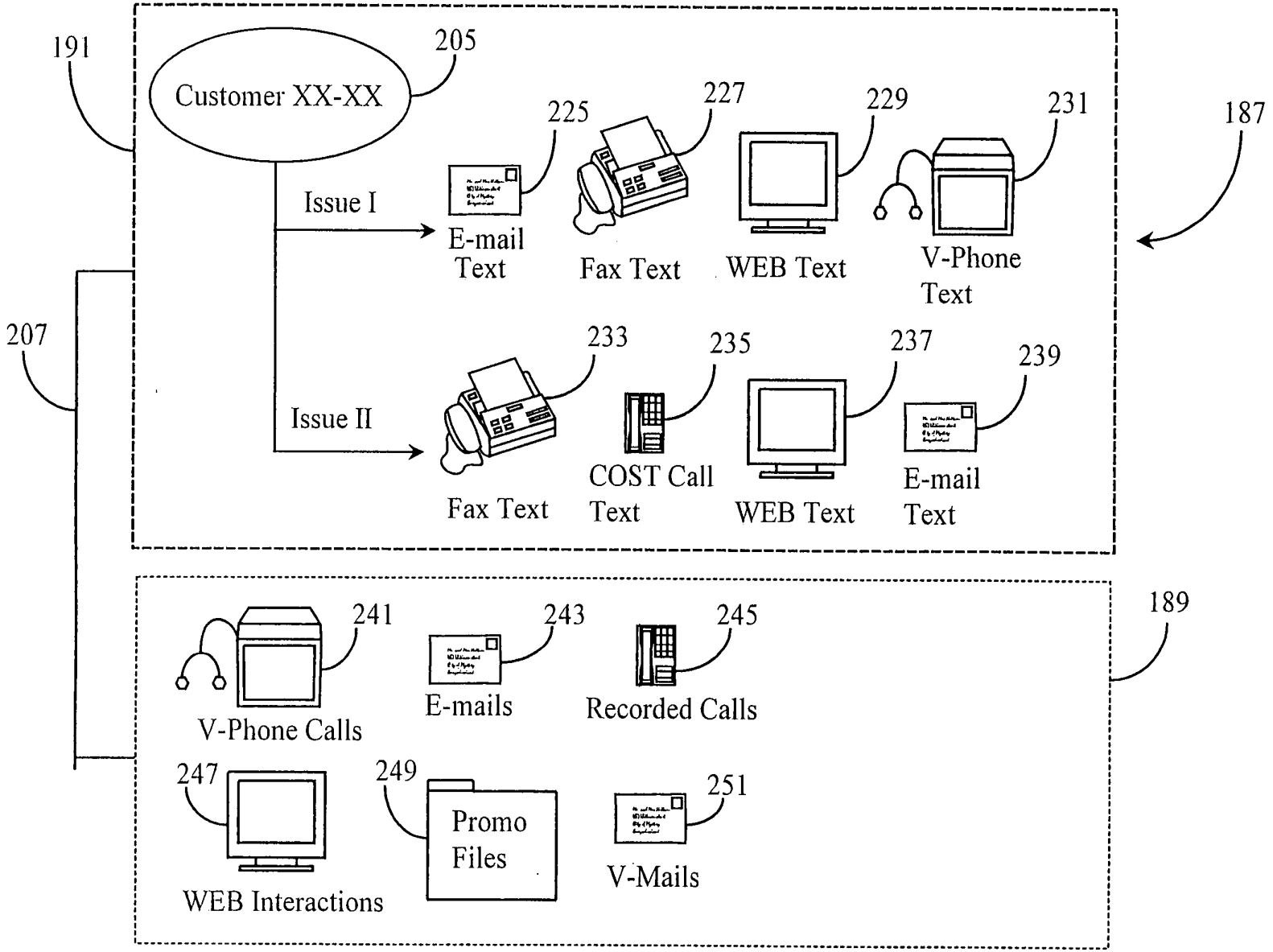

191
205
Customer XX-XX
225
227
229
231
187
Issue I
E-mail Text
Fax Text
WEB Text
V-Phone Text
207
233
235
237
239
Issue II
Fax Text
COST Call Text
WEB Text
E-mail Text
189
241
243
245
V-Phone Calls
E-mails
Recorded Calls
247
249
251
Promo Files
WEB Interactions
V-Mails

Fig. 8

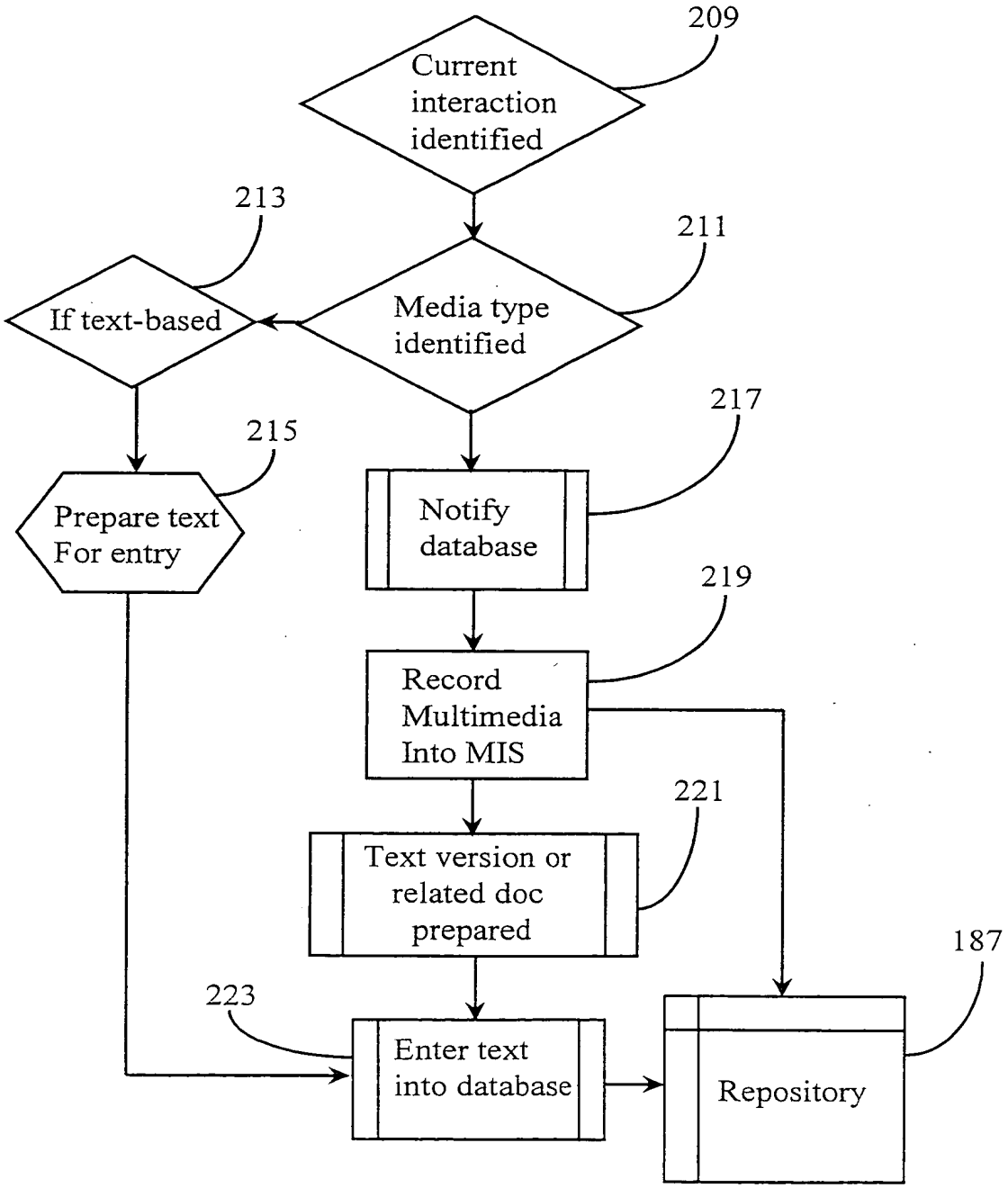
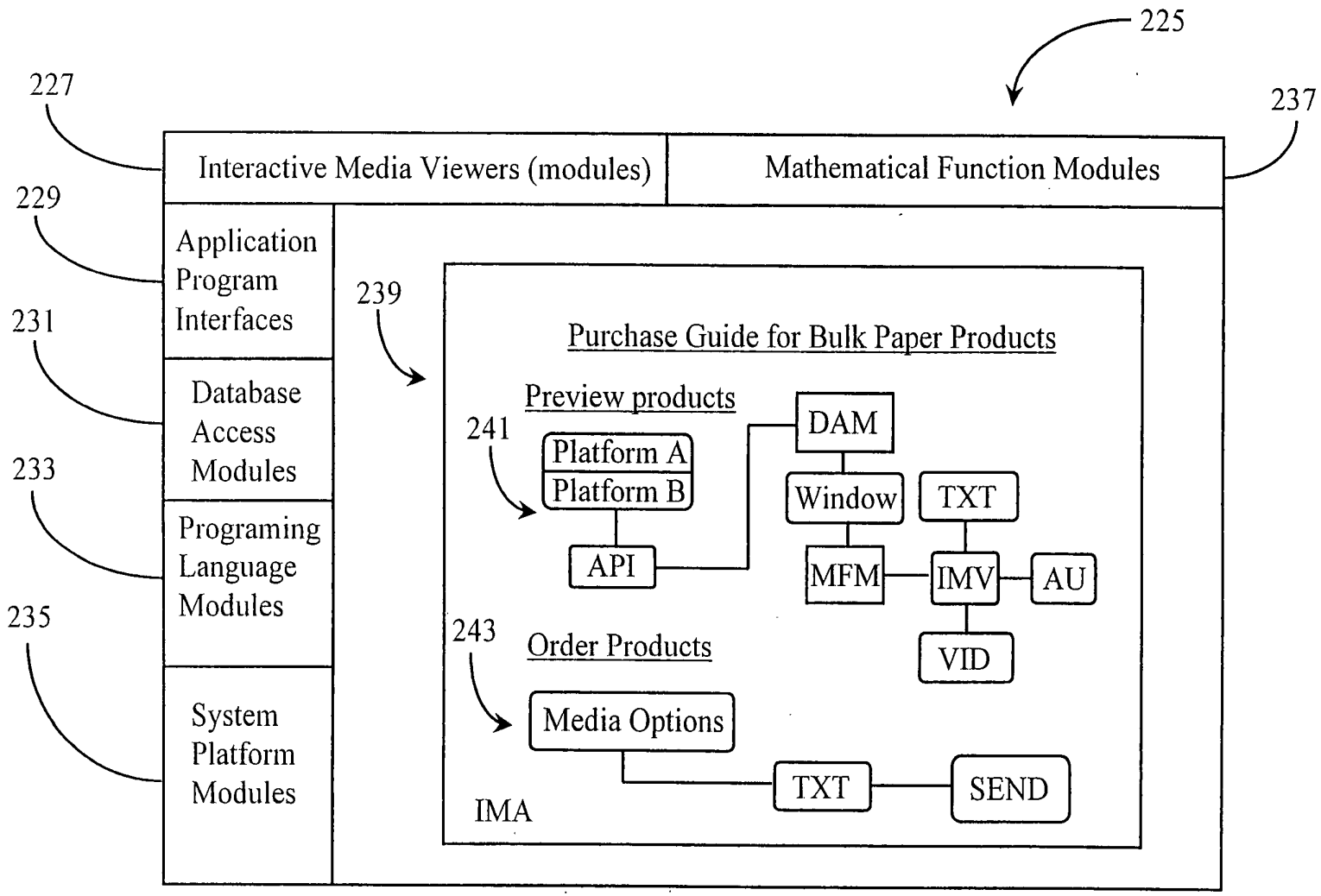

209
Current interaction identified
213
211
If text-based
Media type identified
217
215
Prepare text For entry
Notify database
219
Record Multimedia Into MIS
221
Text version or related doc prepared
187
223
Enter text into database
Repository

Fig. 9



Customer/Agent/Associate IMA Tool Kit

Fig. 10

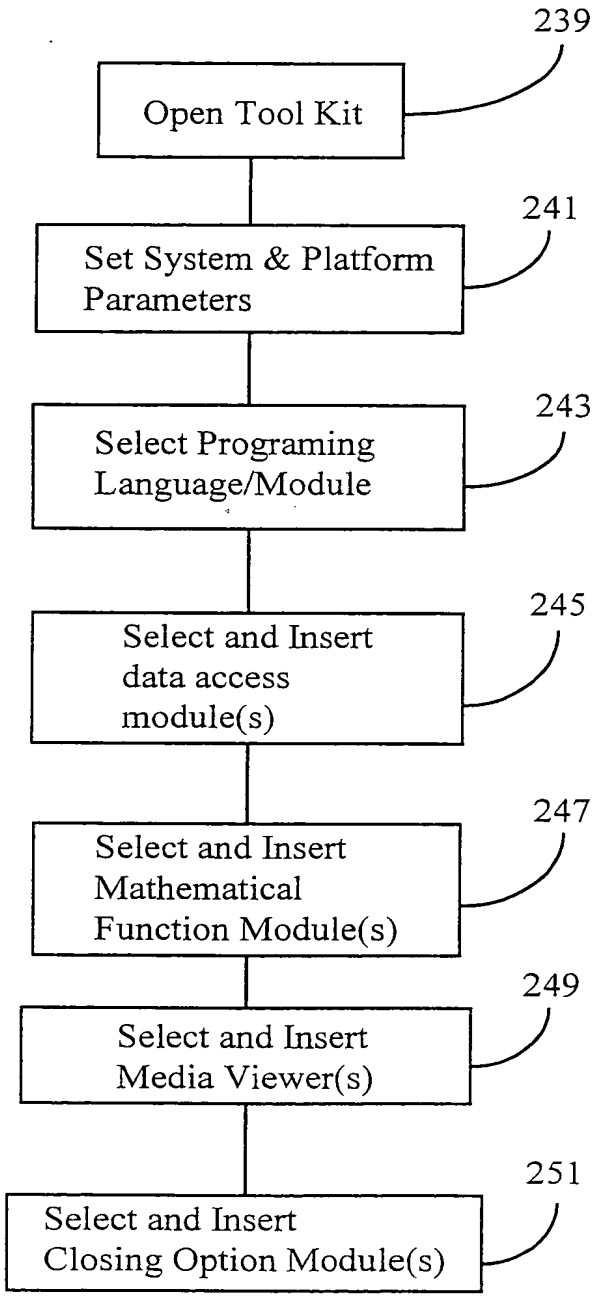

239
Open Tool Kit
241
Set System & Platform Parameters
243
Select Programing Language/Module
245
Select and Insert data access module(s)
247
Select and Insert Mathematical Function Module(s)
249
Select and Insert Media Viewer(s)
251
Select and Insert Closing Option Module(s)

Fig. 11

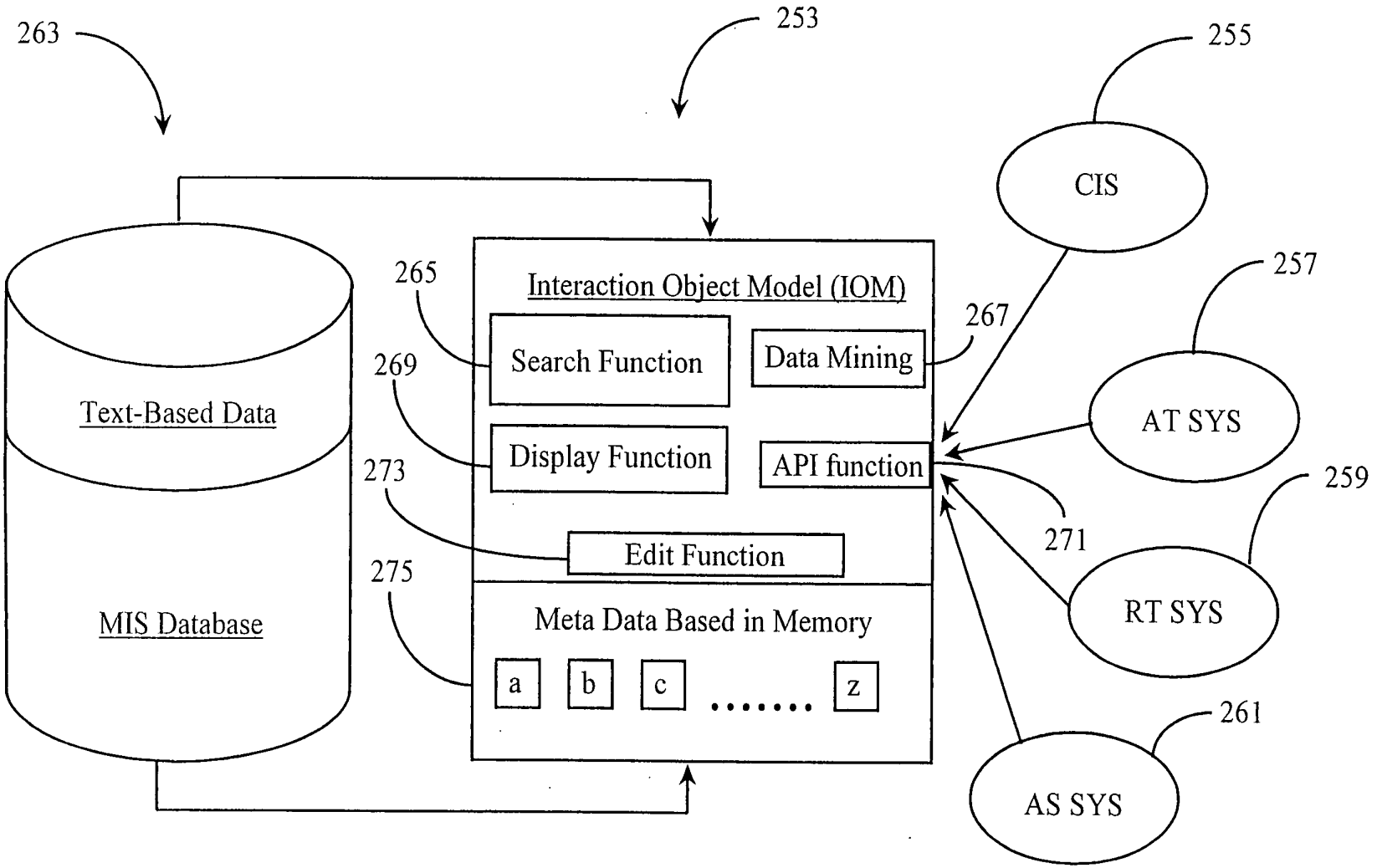

263
253
255
CIS
Interaction Object Model (IOM)
265
Search Function
Data Mining
267
257
AT SYS
269
Text-Based Data
Display Function
API function
273
271
259
Edit Function
RT SYS
275
Meta Data Based in Memory
MIS Database
a
b
c
.....
z
261
AS SYS

Fig. 12

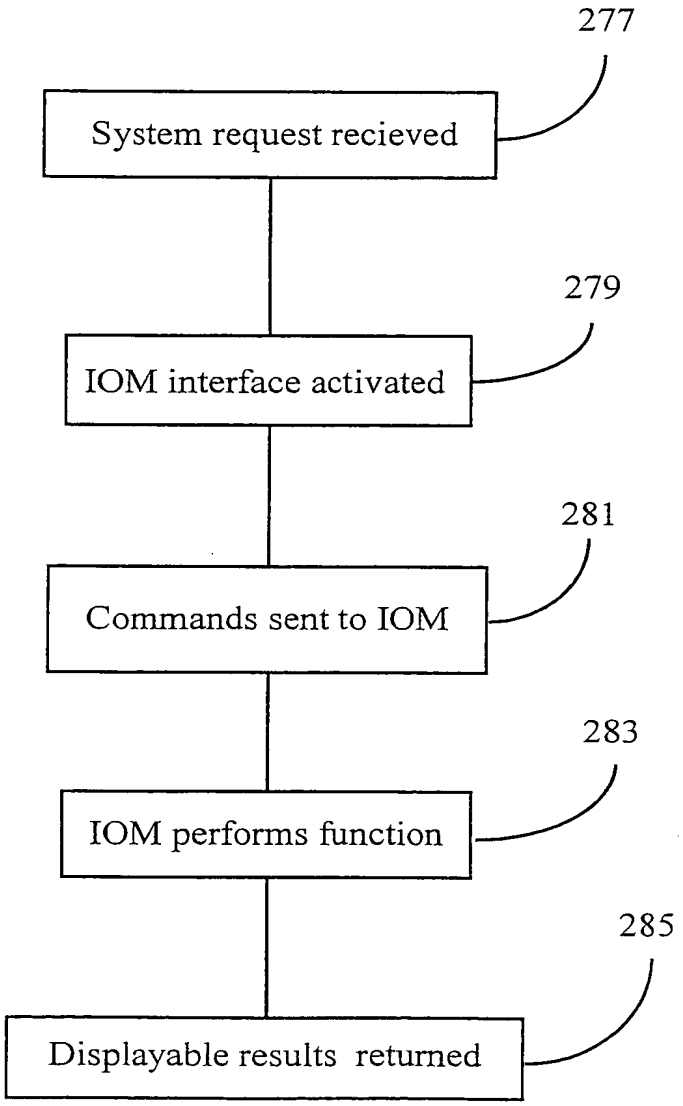

277
System request recieved
279
IOM interface activated
281
Commands sent to IOM
283
IOM performs function
285
Displayable results returned

Fig. 13

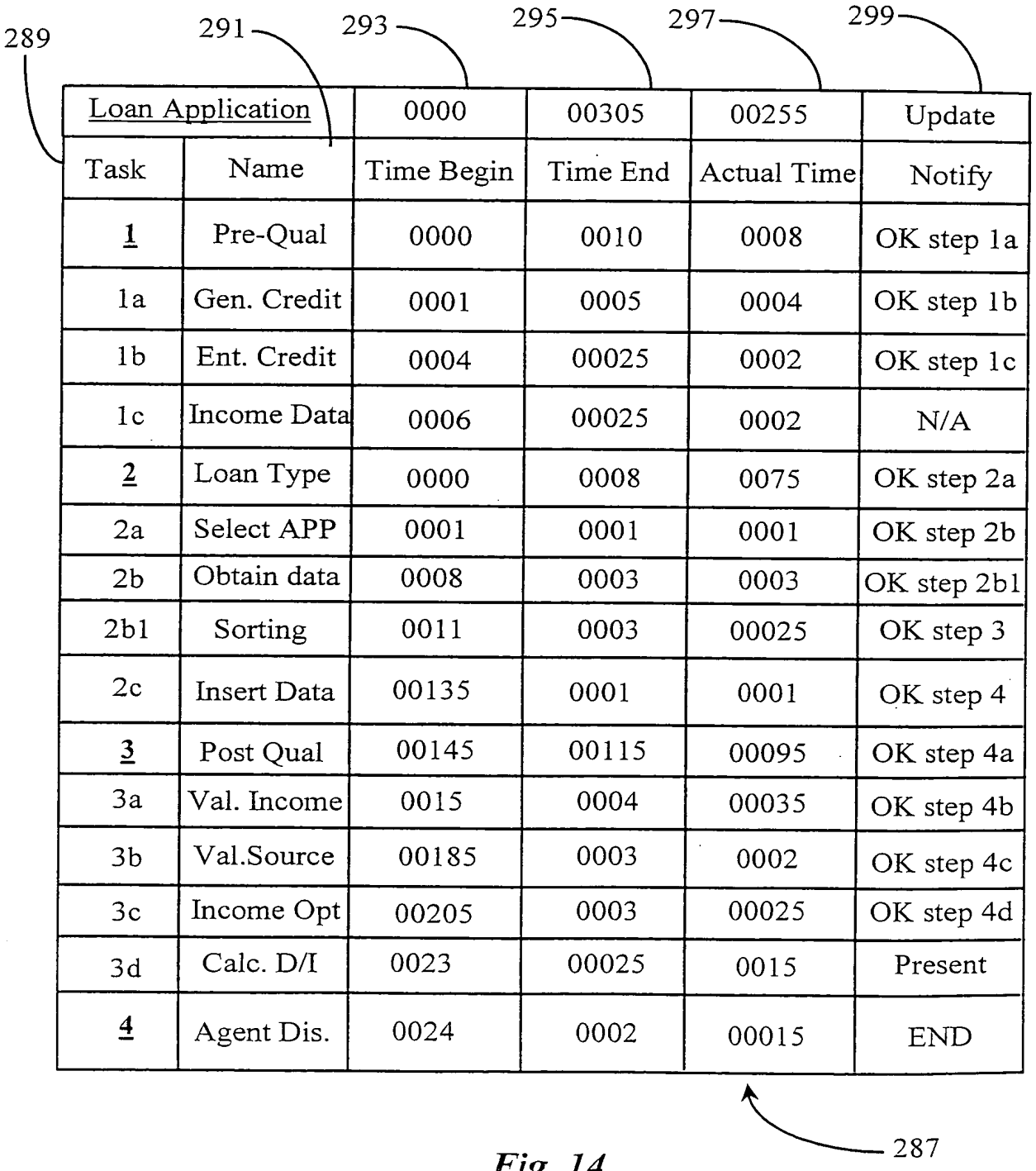

289
291
293
295
297
299
Loan Application
0000
00305
00255
Update
Task
Name
Time Begin
Time End
Actual Time
Notify
1
Pre-Qual
0000
0010
0008
OK step 1a
1a
Gen. Credit
0001
0005
0004
OK step 1b
1b
Ent. Credit
0004
00025
0002
OK step 1c
1c
Income Data
0006
00025
0002
N/A
2
Loan Type
0000
0008
0075
OK step 2a
2a
Select APP
0001
0001
0001
OK step 2b
2b
Obtain data
0008
0003
0003
OK step 2b1
2b1
Sorting
0011
0003
00025
OK step 3
2c
Insert Data
00135
0001
0001
OK step 4
3
Post Qual
00145
00115
00095
OK step 4a
3a
Val. Income
0015
0004
00035
OK step 4b
3b
Val.Source
00185
0003
0002
OK step 4c
3c
Income Opt
00205
0003
00025
OK step 4d
3d
Calc. D/I
0023
00025
0015
Present
4
Agent Dis.
0024
0002
00015
END
287

Fig. 14

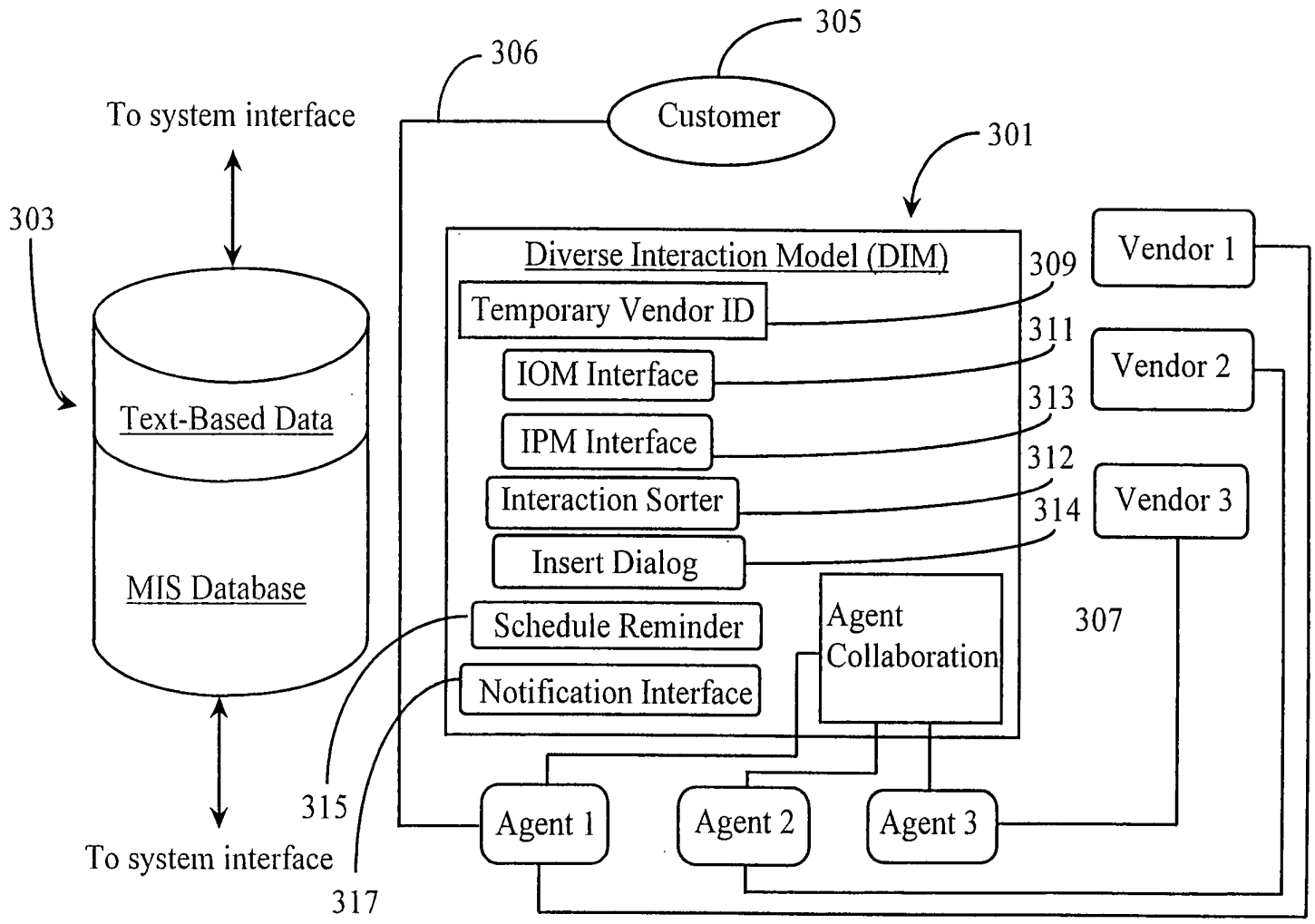

305
306
Customer
To system interface
301
303
Diverse Interaction Model (DIM)
309
Vendor 1
Temporary Vendor ID
311
IOM Interface
Vendor 2
313
IPM Interface
312
Interaction Sorter
Vendor 3
314
Insert Dialog
Text-Based Data
MIS Database
Schedule Reminder
Agent Collaboration
307
Notification Interface
315
Agent 1
Agent 2
Agent 3
To system interface
317

Fig. 15

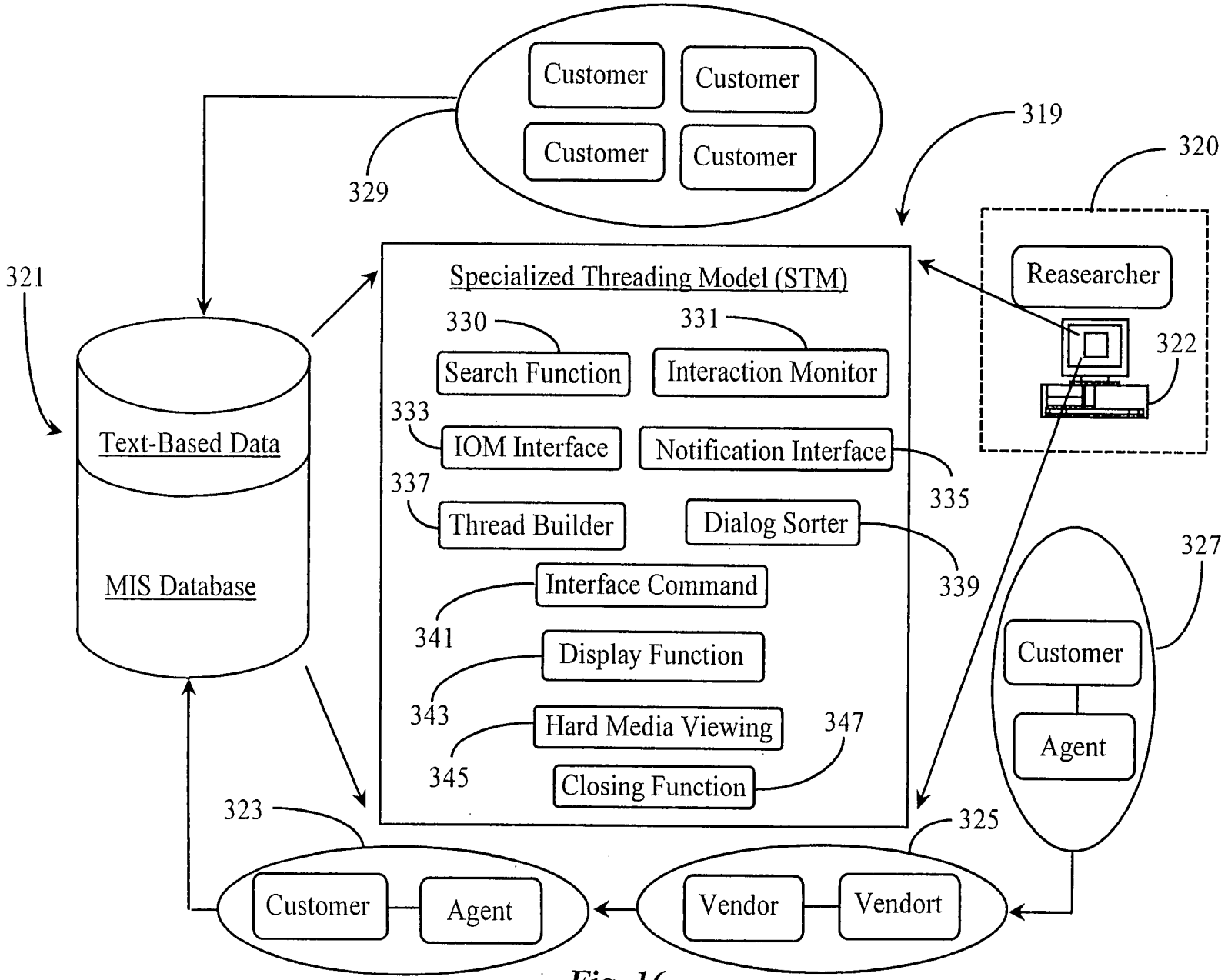

Customer
Customer
Customer
Customer
329
319
320
321
Specialized Threading Model (STM)
Reasearcher
330
331
Search Function
Interaction Monitor
322
333
IOM Interface
Notification Interface
335
337
Thread Builder
Dialog Sorter
339
Text-Based Data
MIS Database
Interface Command
341
Display Function
343
Hard Media Viewing
347
345
Closing Function
327
Customer
Agent
323
325
Customer
Agent
Vendor
Vendort

Fig. 16

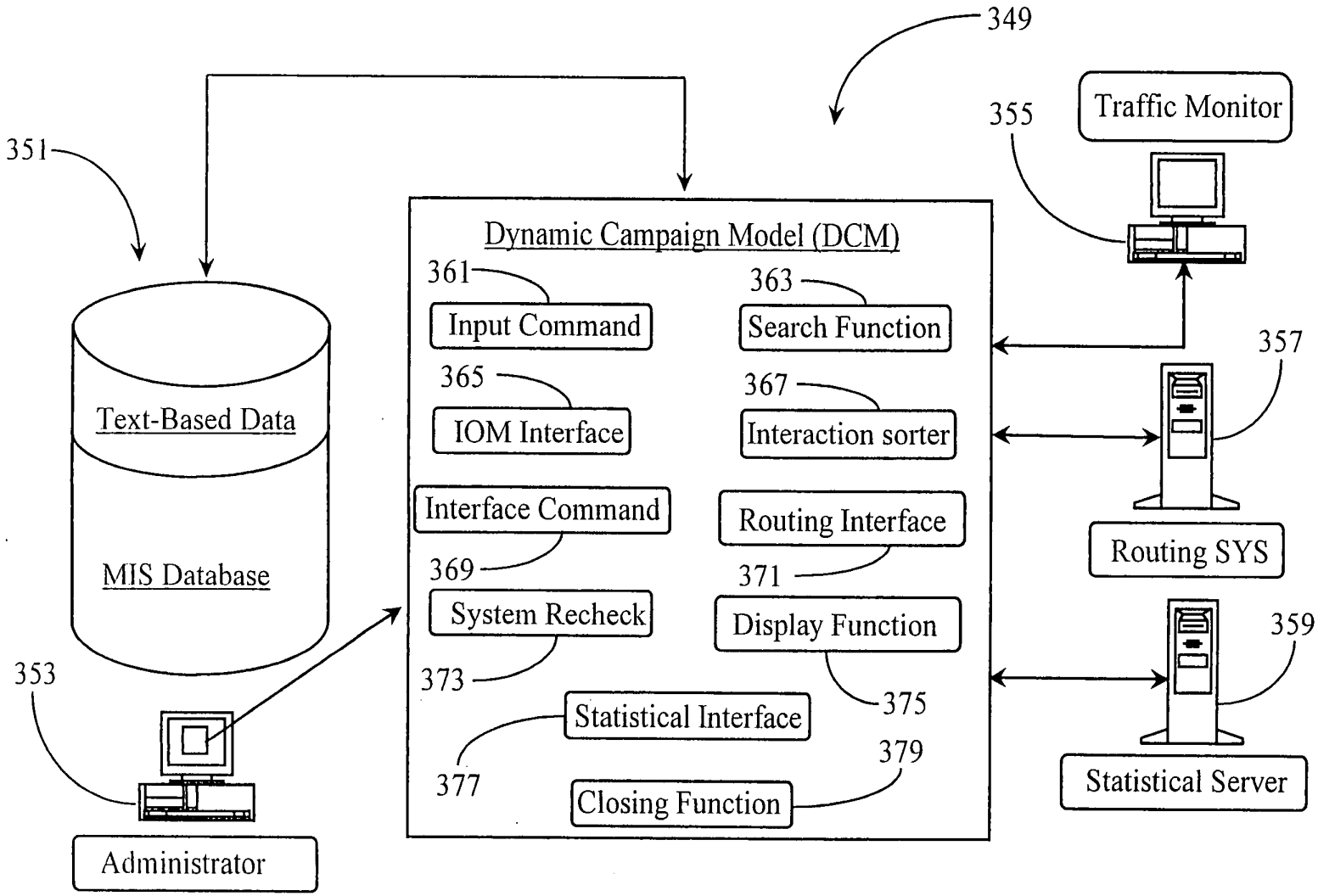

349
351
355
Traffic Monitor
Dynamic Campaign Model (DCM)
361
Input Command
363
Search Function
365
IOM Interface
367
Interaction sorter
357
Text-Based Data
MIS Database
Interface Command
369
Routing Interface
371
Routing SYS
System Recheck
373
Display Function
359
375
353
Statistical Interface
377
379
Closing Function
Statistical Server
Administrator

Fig. 17

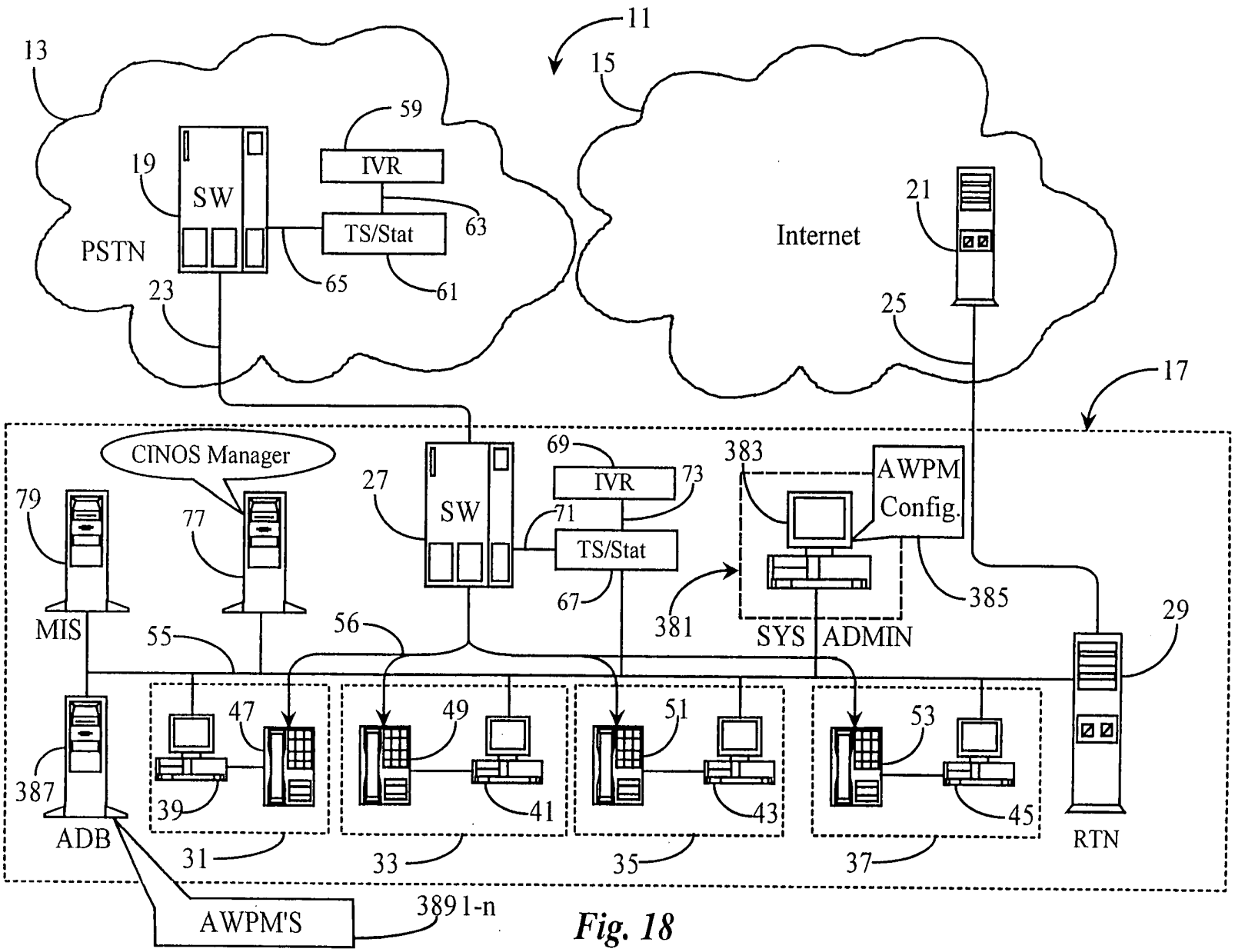

11
13
15
59
19
SW
IVR
63
PSTN
TS/Stat
65
61
23
Internet
21
25
17
CINOS Manager
69
383
AWPM
Config.
27
SW
IVR
73
71
79
77
TS/Stat
67
381
385
MIS
55
56
SYS
ADMIN
29
47
49
51
53
387
39
41
43
45
ADB
RTN
31
33
35
37
AWPM'S
3891-n

Fig. 18

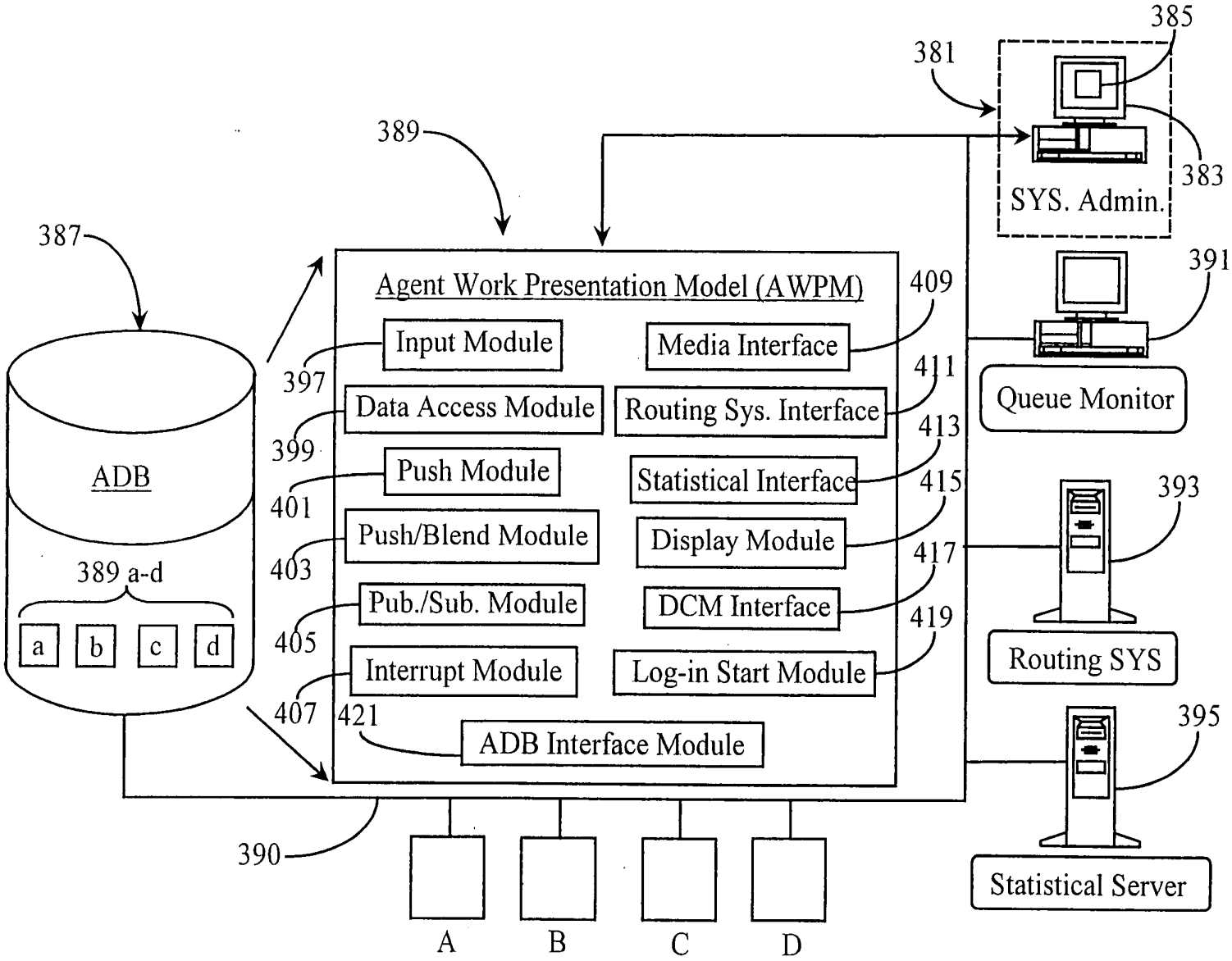
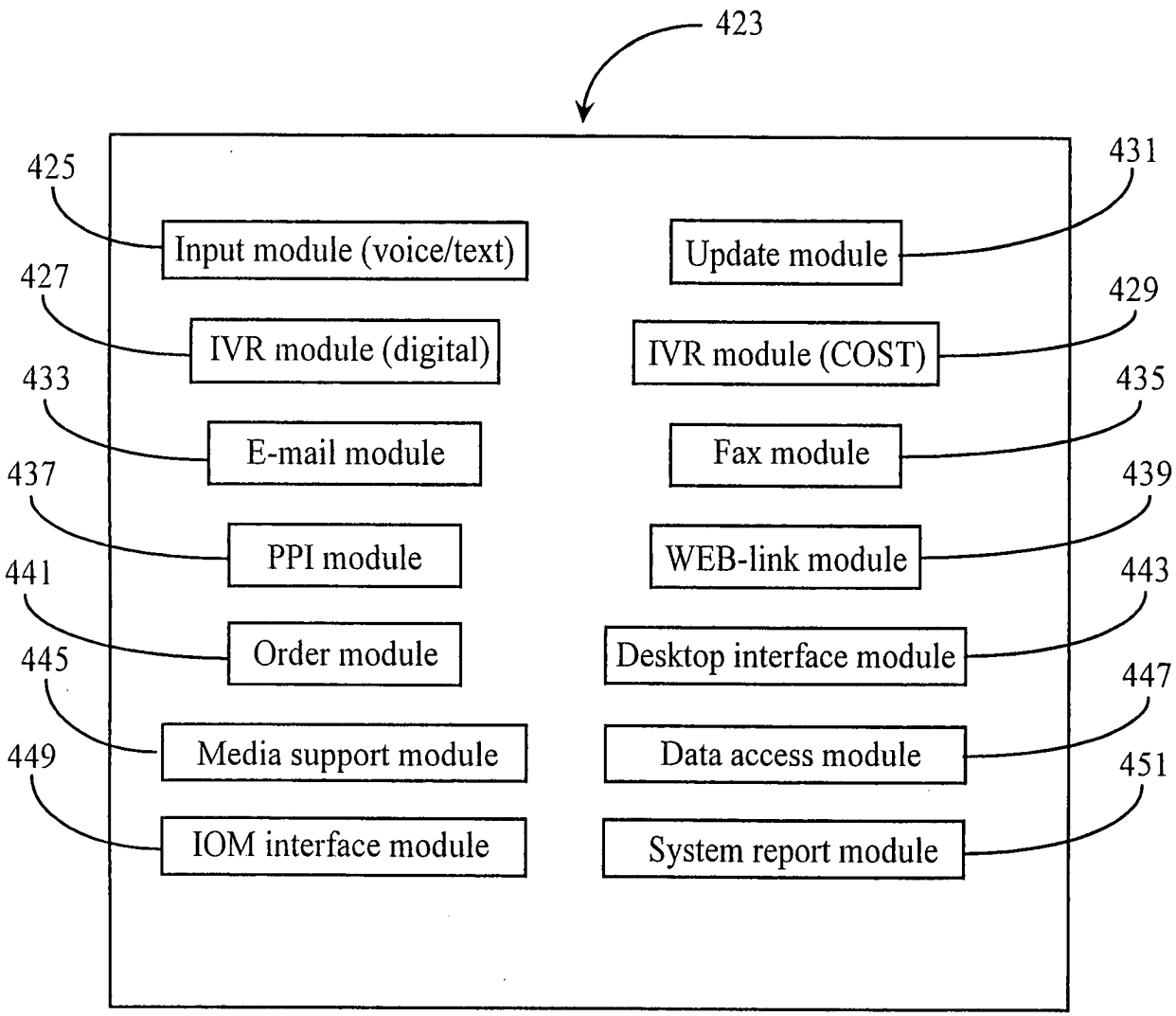

385
381
389
383
SYS. Admin.
387
Agent Work Presentation Model (AWPM)
409
391
Input Module
Media Interface
397
411
Data Access Module
Routing Sys. Interface
Queue Monitor
399
413
ADB
Push Module
Statistical Interface
401
415
393
Push/Blend Module
Display Module
403
417
389 a-d
Pub./Sub. Module
DCM Interface
a
b
c
d
405
419
Interrupt Module
Log-in Start Module
Routing SYS
407
421
395
ADB Interface Module
390
Statistical Server
A
B
C
D

Fig. 19



Self-Help Wizard (customer service)

Fig. 20